

# ISAC Meeting – March 2013

## ACTION OR INFORMATION ITEM

**SPONSOR (Name/Email):** Bonnie L. Harper-Lore, bonnielore@comcast.net

**TOPIC:** Invasive Species and Climate Change (with World Trade as the 500-Pound Gorilla in the Room)

**SPEAKER (Name/Email):** Dr. Thomas Stohlgren, stohlgrent@usgs.gov

**1. DESCRIPTION OF AGENDA ITEM:** Keynote presentation by one of the ten most productive scientists in the world in the field of biological invasions. Stohlgren looks at the relative contribution of climate change and world trade in current patterns of invasions. He presents “ecological forecasting models” of alien species’ distributions under various climate change scenarios. He uses examples on the effects of droughts on alien annual plants, and warm temperatures related to forest insect outbreaks and wildfires. He estimates the “rate of change” of suitable habitat of several species with future climate scenarios in a “risk assessment framework.” Then, he drops an under-appreciated bombshell—the effects of trade and transportation far exceed the effects of climate change for harmful invasive species.

## **2. WHY IS THIS ITEM IMPORTANT TO NISC / ISAC? HOW IS IT RELATED TO THE NATIONAL INVASIVE SPECIES MANAGEMENT PLAN?**

The nation needs to understand that most species have been in existence for thousands or tens of thousands of years. They have adapted to changing climates in their home countries and invaded countries. Temperatures have increased 1-2 degrees C in 100 years. Trade has increased 40-fold in 50 years. Climate change may “move” the suitable habitat of a species by 5-km-year, while commercial vehicles can move a species 500-km-day. Studies show that climate change will benefit some species and harm others. Meanwhile, globalization and transportation networks continue to bring in alien plants, animals, and diseases at unprecedented rates. Too much emphasis on the “climate change and invasion” story may detract much needed efforts on the “trade and invasion” story that requires for more attention.